

<b>WELD RECORD PACKAGES AND PIPING TESTING PACKAGES</b>			Identifier: PRD-5010
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Subcontractor/Supplier	PRD	For Additional Info: <a href="http://EDMS">http://EDMS</a>	Effective Date: 08/11/04
Manual: Subcontractor Requirements		USE TYPE 3	Change Number: 114336

## 1. PURPOSE

This Program Requirements Document (PRD) identifies the requirements for developing, maintaining, completing, and controlling weld history documentation.

## 2. APPLICABILITY

This PRD applies to INEEL *subcontractor/suppliers* (see def.) when specified by a subcontract or purchase order. It applies only to those items/activities identified in the applicable subcontract or purchase order.

Supplemental requirements may be specified for all or part of the work scope as determined to be appropriate by the *contractor* (see def.). The subcontractor/supplier shall implement the requirements of this PRD and all supplemental requirements, when and as specified by the subcontract or purchase order.

## 3. RESPONSIBILITIES

Performer	Responsibilities
Contractor	Perform weld inspections and record results on the applicable weld record package documents.
Subcontractor/Supplier	<p>Train personnel working to this procedure in accordance with PRD-5001.</p> <p>Originate a <i>weld record package</i> (see def.) for each line, system, or structure prior to initiating any welding activity.</p> <p>Protect and control the use of the weld record package.</p> <p>Update the weld record as work progresses. This information shall be recorded in a timely manner such that the weld records are kept up-to-date.</p> <p>Prepare a weld map for each structure, system, sub-system, component, assembly, or weldment.</p> <p>Perform weld inspections and record results on the applicable weld record package documents, when required by the contract documents.</p>

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<b>Performer</b>	<b>Responsibilities</b>
Subcontractor/Supplier (continued)	<p>Initiate Form 432.43 and 432.44, Subcontractor/Supplier Weld History Record/Map, or a contractor approved equivalent for each weld.</p> <p>Comply with all applicable inspection requirements. Either perform inspections or request inspections from the contractor's representative as required by the subcontract or purchase order.</p> <p>Initiate Form 432.45, Subcontractor/Supplier Weld Repair Card, for each weld repair.</p> <p>Assemble a weld record package(s) for each system, including all applicable welding, inspection, examination, and testing documentation.</p> <p>Submit documentation required by the vendor data schedule in accordance with PRD-5003.</p>

**4. REQUIREMENTS**

- 4.1 Subcontractor/supplier personnel responsible for the preparation, control, and completion of weld record packages, shall be trained to the requirements of this PRD in accordance with PRD-5001, Training and Indoctrination.
- 4.2 The supplier shall generate a weld record package, utilizing the latest Forms, for each line, system, or structure prior to initiating any welding activity.
  - 4.2.1 Weld record packages shall provide objective evidence that the welding activities were performed in accordance with the subcontract.
    - 4.2.1.1 Weld record packages shall be prepared and maintained with black indelible ink. Erasable media such as pencil is specifically prohibited.
    - 4.2.1.2 All corrections shall be made by marking a single line through the incorrect entry, then placing the correct entry in close proximity to the incorrect entry.
    - 4.2.1.3 All corrections shall have the initial and date of the individual making the correction in close proximity to the correction.

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4.2.1.4 Weld record packages, including weld mapping, shall be clean, neat, free of irrelevant information, and reproducible.

4.3 The initial weld record package(s) shall include:

- A. Form 432.44, Subcontractor/Supplier Weld History Record
- B. Form 432.43, Subcontractor/Supplier Weld Map(s)
- C. Supplier-provided Weld Procedure Specifications (WPS); or, when the INEEL Weld Manual is specified/utilized, the applicable WPS from Volume 1 or 1A.

4.4 The subcontractor/supplier shall protect and control the use of the weld record package.

4.4.1 The weld record package shall be protected and controlled in such a manner as to prevent the loss of information and preserve identification and traceability of the documented records of specific activities.

4.4.2 The weld record package shall be used to record welding data required by the subcontract. The data shall be recorded in a timely manner such that the weld record package is kept current.

4.4.3 The weld record package shall **not** be used as a substitute for red-line drawing requirements.

4.5 As work progresses, additional documentation shall be incorporated by the subcontractor/supplier as appropriate in the weld record package, including (but not limited to):

- A. Weld repair cards
- B. Inspection reports
- C. Nonconformance reports
- D. Design changes (interface documents)
- E. Hydrostatic, pneumatic, and/or sensitive leak test reports
- F. Radiographic results (reader sheets and radiographs)

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- 4.6 A weld map shall be generated by the subcontractor/supplier for each structure, system, sub-system, component, assembly, or weldment and incorporated into the applicable weld record package.
- 4.6.1 The weld map shall be maintained on Form 432.43, Subcontractor/Supplier Weld Map, or an approved equivalent. The weld map must provide adequate information to provide traceability between the actual weld and the weld history record.
- 4.6.2 When approved by the contractor, isometric drawings may be used as weld mapping format.
- 4.6.3 The subcontractor/supplier's weld mapping identification shall use the line, system, component, or assembly number specified by the subcontract.
- 4.6.4 The subcontractor/supplier shall generate a unique and separate weld map for each line, system, component, or assembly number.
- 4.6.5 When more than one weld map is required for an individual line, system, component, or assembly weld map pages shall be numbered sequentially and identify the total number of pages (i.e., 1 of 10, 2 of 10, etc.).
- 4.6.6 For piping system, mechanical system, or HVAC duct, the subcontractor/supplier shall provide a line diagram depicting a simplified facsimile of the system depicted in subcontract documents.
- 4.6.7 Line diagrams shall include weld locations, weld numbers, tie point locations, piece numbers, and weld type, including:
- A. *Field weld* (F; see def.)
  - B. *Shop weld* (S; see def.)
  - C. *Tie point* (TP; see def.)
  - D. Butt joint (B)
  - E. Socket joint (S)
  - F. Fillet weld (F)
  - G. Braze (BR)

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*Examples: FB = field weld/butt joint; SS = shop weld/socket*

4.6.8 Weld numbers shall be unique (not duplicated) for weld identification on each weld map. Weld numbering methodology shall contain:

- A. A sequential weld number
- B. A repair sequence number when applicable.

4.6.9 Weld mapping of structural components shall include:

- A. Structural weld identification that is traceable to the structural member or component (such as a column number or pipe support)
- B. Weld identification documented on either shop drawings that contain sufficient detail to status individual welds or weld history records that are directly relative to weld locations on subcontract or shop drawings.

4.7 In addition to the required weld mapping, the subcontractor/supplier shall initiate Form 432.44, Subcontractor/Supplier Weld History Record, or a contractor approved equivalent, that is identified by using the applicable weld map or weld record package number.

4.8 Subcontractor/supplier personnel performing the welding shall record welder identification, Weld Procedure Specification (WPS) number and revision, filler material identification number, parent metal heat/traceability number or component identification, and date the weld was completed next to the applicable weld number in the appropriate blocks, as applicable per the subcontract or purchase order documents. This information shall be recorded in a timely manner such that the weld records are kept up-to-date.

4.9 The subcontractor/supplier shall comply with all applicable inspection requirements as defined by the subcontract or purchase order.

4.9.1 When required by the subcontract or purchase order, the subcontractor/supplier's representative shall perform and document inspections that are not required to be performed by the contractor's representative. These shall be documented in the weld history package.

4.9.2 Inspection entries shall be made on the same day and same shift the inspection is performed.

4.9.3 Inspections shall **not** be requested or performed without a current weld record package.

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4.9.4 When required by national codes, project specifications and drawings or other subcontract or purchase order document, the subcontractor/supplier shall request the following inspections from the contractor's representative who will perform the inspections and document the results on the weld history record:

- A. Fitup
- B. Weld parameters, weld procedure and qualifications
- C. Material, filler and base metal
- D. Weld identification
- E. Root pass, intermediate, and final NDE per subcontract
- F. Final NDE and/ or VT per subcontract
- G. Cleanliness.

4.10 The subcontractor/supplier shall initiate Form 432.45, Subcontractor/Supplier Weld Repair Card, or a contractor approved equivalent, for any weld or base metal repair where grinding has reduced the thickness below the minimum allowable for a completed weld joint.

4.10.1 A weld repair card shall be initiated prior to the deposit of any additional filler metal.

**NOTE:** *A weld repair card is **not** required for "in-process weld defects" (see def.).*

4.11 The subcontractor/supplier shall issue a weld repair card for any weld defects identified and documented by the contractor's representative as a result of a required inspection or examination.

4.12 Subcontractor/supplier issued weld repair card shall be initiated and maintained in accordance with the same requirements as the other weld history records.

4.13 A copy of all completed and applicable hydrostatic, pneumatic, or other test reports shall be incorporated into the weld record package by the

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subcontractor/supplier. The original shall be processed in accordance with paragraph 4.15.4.

4.13.1 The original test reports shall be maintained in the applicable weld record package.

4.13.2 Test reports that include portions of systems from related weld record packages may be duplicated, provided the location of the original test report is referenced. For example:

“The original test record is filed with weld record package number 001966.”

4.14 All completed and applicable radiograph reader sheets shall be incorporated into the weld record package by the subcontractor/supplier.

4.14.1 The original radiograph reader sheets shall be maintained with the applicable radiographic film and a copy maintained with the weld record package.

4.14.2 Radiograph reader sheets that include welds from related weld record packages may be duplicated, provided the location of the original is referenced. For example:

“The original test record is filed with weld record package number 001996.”

4.15 Documentation required by this PRD shall be completed, maintained, and stored in a single location in a secure and protected environment during the full performance period of the subcontract or purchase order.

4.15.1 All required documentation shall be legible, reproducible, free from erasure, correction fluid, and/or correction tape, and completed in black indelible ink only.

**NOTE:** *When a correction to documentation is required, a single line shall be drawn through the information to be deleted; additional information, if needed, shall be recorded adjacent to the information being changed; and the individual revising the document shall initial and date each entry adjacent to the correction.*

4.15.2 When completed, all blanks or blocks shall be filled in on each document. If there is no relevant information, the blank or block shall be marked “N/A.”

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4.15.3 All required documentation shall be made readily available for contractor review and/or audit.

4.15.4 All required documentation shall be submitted to the contractor when required by the subcontract, in accordance with PRD-5003, Vendor Data Control. If not required to be submitted thru the vendor data system, the original packages shall be transmitted to the contractors inspector for attachment to the inspection plan.

**5. DEFINITIONS**

See LST-27, Glossary, for definitions of the following terms:

Contractor

Field weld (F)

In-process weld defects

Shop weld (S)

Subcontractor/supplier

Tie point (TP)

Weld record package

**6. REFERENCES**

Form 432.43, Subcontractor/Supplier Weld Map

Form 432.44, Subcontractor/Supplier Weld History Record

Form 432.45, Subcontractor/Supplier Weld Repair Card

PRD-5001, Training and Indoctrination

PRD-5003, Vendor Data Control

**7. APPENDICES**

None.